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(54) Title: ALUMINIUM ELECTROWINNING CELLS WITH NON-CARBON ANODES

(57) Abstract: A cell for electrowinning aluminium from alumina, comprises: a metal-based anode having an electrochemically active outer part comprising a layer that contains predominantly cobalt oxide CoO; and a fluoride-containing molten electrolyte in which the active anode surface is immersed. The electrolyte is at a temperature below 950°C, in particular in the range from 910° to 940°C. The electrolyte consists of: 6.5 to 11 weight.% dissolved alumina; 35 to 44 weight% aluminium fluoride; 38 to 46 weight% sodium fluoride; 2 to 15 weight% potassium fluoride; 0 to 5 weight% calcium fluoride; and 0 to 5 weight% in total of one or more further constituents.